Asigra Televaulting™

Version 6.0 Release Notes

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1 Introduction

This document provides instructions on how to install/upgrade to v.6.0 the ASIGRA products. It also contains information about new, changed, or dropped functionality, as well as known problems for specific products.

2 Important Notices

Read the following sections carefully:

2.1 New ports allocated for all ASIGRA Televaulting products

Starting with v.6.0, ASIGRA will switch the ports used by the ASIGRA products in previous versions (3000, 3001, 3002, 3003, 3006, and 3007) to the following ports approved and allocated to ASIGRA Inc. by the Internet Assigned Numbers Authority (IANA):

- DS-User will connect to the DS-Client on port **4403**.
- DS-Client will connect to the DS-System on port **4401**.
- DS-Client will connect to DS-MLR on port **4405**.
- DS-Operator will connect to the DS-System on port **4404**.
- DS-System will connect to the BLM on port **4400**.
- BLM GUI will connect to the BLM service on port **4402**.
- DS-System SLA Manager will connect to the DS-System SLA on port **4406**.
- DS-System SLA will connect to the DS-System on port **4401**.
- DS-Client SLA Manager will connect to DS-Client SLA on port **4407**.
- DS-Client SLA will connect to the DS-Client on port **4403**.

Make the necessary arrangements to switch the ports for any existing DS-Clients and DS Users (e.g. reconfiguring firewall, etc.) before upgrading to v.6.0.

After a new installation of any ASIGRA product, this will use the new ports to communicate with other modules. In order to not disrupt the backup/restore services of existing DS-Clients due to security implications of changing the ports, DS-Client v.6.0. will automatically retry connecting to DS-System on the old port (3000) if it fails to connect using the new one (4001). Also, by default, DS-System will listen to both the old and the new ports, after upgrade. Please note that ASIGRA intends to drop the support for this fallback functionality after the next service park or official release.

For more information about the new ports, visit the following link:
http://www.iana.org/assignments/port-numbers

2.2 Changed DS-Key License

When upgrading to v.6.0, all Windows/Linux/Solaris DS-Systems will require a new license file and/or hardware key. See DS-Key Licensing Policy.pdf for more details. Contact client.services@asigra.com for an Upgrade License for each existing license before upgrading the DS-System software to v.6.0.

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2.3 Drop support notices

2.3.1 Starting with v.6.0 installations/upgrades of ASIGRA products on the Windows NT platform are not supported

2.3.1.1 Affected products:
- DS Client
- DS Client LITE.

2.3.1.2 Recommendations:
ASIGRA Inc. recommends upgrading the Operating System of any existing DS-Client machines from Windows NT 4 to a supported version.

2.3.1.3 Important Note:
The support for agentless backup and restore of Windows NT 4 remains unchanged.

2.3.1.4 Notes for existing customers
- Notify your customers in advance about this drop support notice. See section Migrate Procedure of DS-Client/DS-Client Lite from a Windows NT to a supported platform about possible advise for your customers that have DS-Client or DS-Client LITE installed in a Windows NT4 environment.

- Locate the DS-Clients that are installed on Windows NT 4 platforms by checking “DS Client Info” in the DS-Operator tree.

If you have a big number of DS-Clients on the same DS-System, you can run the following SQL search script on the DS-System database:

```
SELECT a.company_name, b.dsbox_snum, c.attrvalue, c.attrname FROM
customer a, dsbox b, dsclientinfo c WHERE a.account_num = b.account_num
AND b.box_id = c.box_id AND c.attrname = 'Operating System' AND c.attrvalue
LIKE '%Windows NT Version 4%'
```

- Monitor all DS-Clients in this situation to ensure their successful upgrade to v.6.0.

2.3.2 Starting with v.6.0 installations or upgrades of ASIGRA products on the Red Hat 9 platform are not supported

2.3.2.1 Affected products:
- Linux DS-Client
- Linux DS-System.

2.3.2.2 Recommendations:
For any existing Linux DS-Clients or Linux DS-Systems that are installed on Red Hat 9.0, ASIGRA Inc. recommends upgrading the Operating System to a supported version. See the installation support matrix.

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2.3.2.3 Important Note:
The support for agentless backup and restore of Red Hat 9.0 remains unchanged.

2.3.2.4 Notes for existing customers:
See Notes for existing customers and apply this for Red Hat 9.0.

2.3.3 Starting with v.6.0 installations or upgrades of ASIGRA products with PostgreSQL 7.3.2 are not supported

2.3.3.1 Affected products:
- Linux DS-Client

2.3.3.2 Recommendations:
For any existing Linux DS-Client databases using PostgreSQL 7.3.2, ASIGRA Inc. requires upgrading to PostgreSQL 7.4 or higher.

2.3.3.3 Important Note:
The support for agentless backup and restore of PostgreSQL 7.3.2 remains unchanged.

2.3.3.4 Notes for existing customers:
Notify your customers in advance about this drop support notice. Advise your customers to upgrade the database before v.6.0 is deployed.

2.3.4 Starting with v.6.0 Shared and Attached backup sets are not supported There will be no possibility to create these types of backup sets.

2.3.4.1 Affected products:
- DS-Client
- DS-Client LITE

2.3.4.2 Recommendations:
Before upgrading to v.6.0, check each DS-Client for any existing Shared or Attached backup sets. ASIGRA Inc. recommends creating new regular backup sets for the data that you protected with Shared/Attached backup sets. Suspend the Shared/Attached backup sets and perform backups with the new backup sets. When you consider that the Shared/Attached backup sets are no longer necessary, you can remove them.

2.3.5 Starting with v.6.0 MAPI notifications for Windows DS-Systems are not supported

2.3.5.1 Affected products:
- Windows DS-System

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2.3.5.2 Recommendations:
Reconfigure any Windows DS-Systems using this type of notification to use SMTP notification before upgrading to v.6.0.

2.3.6 Starting with v.6.0 Long Term Storage DS-Module is not supported
This functionality is no longer available on the DS-System side or on the DS-Client side and no licenses will have the LTS tool enabled.

2.3.6.1 Important Note:
The DS-Client Windows, Full and LITE and DS-Client Linux 'Restore from LTS' functionality will remain available. The generated LTS packages include DS-Client installations for restore purposes therefore this functionality will be dropped in future versions.

2.3.7 Starting with v.6.0 Initial Backup to Portable DS-System is not supported
The Initial Backup to Portable DS-System functionality is replaced with Initial Backup to Disk. See NEW Functionality and Support section for more details.

2.3.8 **Starting with v.6.0 the one time allowance for DS-System Windows to exceed storage capacity is not supported**

The DS-System Windows v.5.9.5 and up, functioning with a Production License, allowed the DS-System once to function up to 5 days when the Storage Capacity was reached. Starting with v.6.0 this feature will not be available anymore. In case of Storage Capacity Limit reached Enterprise/Service Providers may request an Emergency license via ASIGRA Web Support Portal.

2.4 DS Client FULL/DS-Client LITE Upgrade Procedure (from Windows NT to a supported platform)
Note: This upgrade should be implemented while using v.5.9.7, before upgrading to v.6.0.

2.4.1.1 Solution 1 Upgrade Windows NT 4 operating system to Windows 2000 or 2003

Steps:
1. Check the document Installation and Backup&Restore Support.pdf for supported platforms and choose one based on the product that you are using (Windows DS-Client FULL or Windows DS-Client LITE).
2. Upgrade the Operating System.
3. Contact your Service Provider and Re-register the DS-Client with the DS-System.
4. Use the Migration Wizard to migrate all DS-Client backup sets that are displayed in the Backup Set tree under '*My Computer*' or '*DS-Client Computer*'. Then, reconfigure the backup items (for example Registry must be deleted from the backup items list and you can add the System State and/or Services Databases, if applicable). Check the DS-User Guide section '*Migrate a Backup Set from one computer to another*' for more information about Migration.
5. Run a Daily Admin.

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2.4.1.2 Solution 2 Install DS-Client software on another machine

Steps:
1. Using your current DS-Client that is running on Windows NT 4, run a Daily Admin activity to backup the DS Client databases (dsclient and dsdelta) to the DS-System and stop DS-Client service afterwards.

2. Check the document Installation and Backup&Restore Support.pdf for supported platforms and choose one based on the product that you are using (Windows DS-Client FULL or Windows DS-Client LITE).

3. Install the selected platform and the database support based on your existing DS-Client requirements.

4. Install v.5.9.7 DS-Client software (the same product that you used before - DS-Client Full or DS-Client LITE - with the same database combination) on the new machine. Use the same DS-Client registration information and provide the same encryption type and encryption keys as the ones from the original DS-Client during the new installation.

5. Contact your Service Provider and Re-register the DS-Client with the DS-System.

6. Recover the DS-Client databases that were saved to DS-System in Step 1. (See the DS-User Guide section '*Recovering the DS-Client Database*').

7. Use the Migration Wizard to migrate all DS-Client backup sets that are displayed in the Backup Set tree under '*My Computer*' or '*DS-Client Computer*'. Then, reconfigure the backup items (for example Registry must be deleted from the backup items list and you can add the System State and/or Services Databases, if applicable). Check the DS-User Guide section '*Migrate a Backup Set from one computer to another*' for more information about Migration.

8. Upgrade your MS SQL 2000 SP3 to SP4, if applicable.

9. Run a Daily Admin.

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3 Upgrading an existing v.5.9.7 Windows DS System to v.6.0

- Before upgrading an existing Windows DS System to version 6.0, the operator first needs to make sure that there are no pending LTS or Disc/Tape requests. Also keep in mind that customers cannot be migrated between DS-Systems with different versions; therefore you must complete any migration that has been initiated, before the upgrade to v.6.0.
- Consider in advance the ports changes and all drop support notices for DS-Clients (see Important Notices).
- Check the DS-Key Licensing Policy for information about changes in the ASIGRA Televaulting software licensing. Contact client.services@asigra.com for an Upgrade License before upgrading the DS-System software to v.6.0.
- Use MigrationTool.exe from CD2\DS-System-WINDOWS\ in order to scan your DS-System Online storage and get prepared to upgrade to v.6.0. See Migration tool – what it does and how to use it for more details.
- Run the installation and upgrade v.5.9.7 Windows DS-System to v.6.0. Note: This upgrade will take longer than previous upgrades that you have performed. You may experience an upgrade time of around 30 minutes, depending on the size of the DS-System database. Check Changes in the Windows DS-System v.6.0 architecture for more information about v.6.0 changes.
- Use MigrationTool.exe from CD2\DS-System-WINDOWS\ in order to complete the upgrade of your DS-System Online storage. After the storage is successfully migrated, start the DS System service. DS System service will fail to start with an error like "*Markers for new Storage directory tree have not been detected*. *Please migrate DS System Storage*." until the storage is upgraded.
- Monitor the upgrade of all DS-Clients.

3.1 Migration tool

3.1.1 Purpose

V.6.0 will transform the Windows DS-System Online Storage into a cross platform supported storage that does not depend on the NTFS specific features.

3.1.2 What does the migration tool do?

For detailed documentation about the migration tool and migration process please check the **Migration Tool** document on the v.6.0 DS-System Installation CDs or on the ASIGRA Web Support Portal under the documentation section.

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The Migration Tool will move the directory descriptions from the alternate data streams into files named "_dirdesc" and it will reformat the header of Delta generation files that were backed up with previous versions of Windows DS-System (older than v.5.9.5).

The Migration Tool process has 2 important stages:

Stage 1: **Online storage Prescan**:
- Scans the entire Online storage
- Detects all Delta generation files that will need header reformatting
- Builds a list of files to be changed

It can be executed while the DS-System is still running with v.5.9.7. In this Stage the Migration Tool will only scan and read information and build the file list to be used later on 'Changed Files'. This process may take a long time, depending on the number of files on the DS System and the I/O load on the backend storage.

Stage 2: **Online Storage Migration**:
- Scans the entire Online storage
- Moves the directory descriptions from the alternate data streams into "_dirdesc" files
- Reformats the header of the files listed in the 'Changed Files'

Should be executed only after the Windows DS-System software is upgraded to v.6.0. This process may take a long time, depending on the number of directories, and the number of files to be upgraded and on the I/O load on the backend storage. You can specify either a local or a UNC path. Make sure that the storage is not in use by any process/user when you run the Migration Tool during the Online Storage Migration stage, otherwise the migration may fail.

Recommendations: Asigra recommends that you run the Migration Tool in two stages in order to minimize the downtime of the DS-System. You have the option to run only the second stage, without providing an input file. This must be run when the DS-System is stopped and it will take a longer (because it will also perform Stage 1).

Where is the migration tool located?
MigrationTool.exe can be found in the CD2\DS-System-WINDOWS directory.

How to use the migration tool?
Run this tool on the DS-System machine (if DS-System Online storage is on a DAS) or on any other machine that has full rights on all the Extensible Storage Locations of your DS-System and on the DS-System machine.

Online Storage Prescan Steps:
1. Launch the MigrationTool.exe and click on Start menu. Choose the first Migration Option: **Online storage Prescan**. PreScan Setting dialog will be launched.

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2. Press the 'Load' button in order to detect the DS-System configuration on the local machine and connect to the DS-System database. This operation will fail if there is no DS-System installed on the local machine.
3. If the DS-System software is installed on another machine press the 'Load from Network' button and browse and select the computer (and provide the necessary credentials). The currently logged on user should have administrative rights on the remote machine. After the connection is established to the DS System machine and database, all defined extensible storage locations will be listed in the Extensible Storage List.
4. Configure the number of scanning and processing threads (4 threads per CPU are recommended but you can select less if you don't want to overload your disks, while DS-System v.5.9.7 is still running). Set a path for the Prescan result file and 'Start' the scan.
5. Once the **Online storage Prescan** has finished successfully you can close the Migration tool and upgrade the DS-System to v.6.0 at your convenience.

Online Storage Migration Steps:
6. Launch the MigrationTool.exe and click on Start menu. Choose the second Migration Option: **Online Storage Migration**. Migration Setting dialog will be launched. Proceed with Step 2 or Step 3, depending on where the DS-System is located.
7. Configure the number of scanning and processing threads (4 threads per CPU are recommended). Provide the path of the Prescan result file (if applicable) and 'Start' the scan. **If you do not provide any file, the migration tool will perform both stages!**
8. After the **Online Storage Migration** has finished successfully, you can close the Migration tool and start the DS-System service.

3.2 Changes in the Windows DS-System v.6.0 architecture

3.2.1 DS-System Database
The **DS-System database** will be named *dssystem* instead of *dsserver*. The migration of all database information from the *dssserver* into *dssystem* will be performed during the upgrade to v.6.0. You will need additional storage space on the database drive for the upgrade.

Notes:
1. The new database *dssystem* will be smaller in size compared with the previous database *dsserver*.
2. All table columns with a *datetime* data type were changed to *int* data type. Contact support@asigra.com for more information.

3.2.2 **DS-System configuration**
DS-System configuration will be moved from Registry to a configuration file named dssys.cfg located in the DS System directory.

3.2.2.1 dssys.cfg file – possible values and association with previous Registry Keys

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Previous Registry Key Name	Dssys.cfg value	Database location	Description	Valid values
AutoUpgrade	AutoUpgrade	*None*	DS-Clients connecting to this DS-System will be auto upgraded automatically.	true false
BabyMode (*dropped*)	*None*	*None*	--	--
BackupDBTransaction	Dump Format	*None*	By default, DS-System performs an incremental (if applicable) or a differential backup of its database every hour. This can be disabled if the value is set to 'nodiff'.	nodiff
BackupRoot	BackupRoot	*None*	The root directory for the online storage.	DS-System main storage location.
CdBuffer	CD BUFFER	*None*	The root directory for the Disc/Tape buffer.	Path to the CD Buffer folder.
CleanLib			If different than 0, DS-System will remove from database records that do not have corresponding online files. It is reset to 0 after the first successful process.	
CleanLibAdmin			If different than 0, when running Clean Libraries process, DS-System will first run the System Admin on all existing DS-Clients. It is reset to 0 after the first successful process.	
DBEmergencyLevel	Database Emergency Level	*None*	Emergency Level Notification for the available space on the database drive.	Less than Database Warning Level
DBStopServiceLevel	Database Stop Level	*None*	Stop Service Level Notification for the available space on the database drive.	Less than Database Emergency Level
DBWarningLevel	Database Warning Level	*None*	Warning Level Notification for the available space on the database drive.	Any value more than Database Emergency Level.
Del_Root	Del Root	*None*	The root directory where bad files or data from deleted clients are moved.	
DisasterRecovery		ds_config table: cfg_name: DisasterRecovery Mode	If set to 1, DS-System will start in disaster recovery mode.	0 1

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Previous Registry Key Name	Dssys.cfg value	Database location	Description	Valid values
EmergencyFrequency	PM Emergency Frequency	*None*		
EnableSelfHealing	*None*	schedule_details table: schedule_type = 1	New functionality: Self Healing can be scheduled.	Daily, Weekly, Monthly or Start with DS-System.
KeepResumeFile			after <KeepResumeFile> minutes, the file can not be backed up in block level resume mode.	
Language	*None*	*None*	Language parameter is set at startup by the startup script.	en de
LibraryRoot			The root of the library area	
LtsBuffer	*dropped*	*dropped*	-	-
LtsOption	*dropped*	*dropped*	-	-
LtsThreads	*dropped*	*dropped*	-	-
MailClientsSupported	*dropped*	*dropped*	-	-
MaxLibDays	Max Private Days	*None*	If the entries of table 'Private_files' exceed 'Max Private Days', all the entries will be sorted by date and the entries which are more than <MaxLibSize> and older than 'Max Private Days' will be deleted from the table.	
MaxRunningDays	*dropped*	*dropped*	-	-
MaxLibSize	Max Private Items	*None*	The maximum records of the 'Private_files' table.	
MoveBadFile	Move Bad File	*None*	If different than 0, when detecting some invalid files, DS-System will move them to the "del" directory for further investigation instead of deleting them.	
MultipleStorageOK	Multiple Storage OK	*None*	If set to 1, DS System allows multiple storage locations on the same drive. This should never be used on production DS-Systems.	

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Previous Registry Key Name	Dssys.cfg value	Database location	Description	Valid values
NoRecycle	*None*	ds_config table: cfg_name : RecycleSwitch	Enforces DS-System to not use delta recycling - renaming positive generations to negative IDs - anymore. During System Admin, DS-System will reconstruct files depending on negative generations and it will clean the negative ones.	
OLEmergencyLevel	Online Emergency Level	*None*	The Emergency Notification Level for the available space on the Online storage.	
OLStopServiceLevel	Online Stop Level	*None*	The Stop Notification Level for the available space on the Online storage.	
OLWarningLevel	Online Warning Level	*None*	The Warning Notification Level for the available space on the Online storage.	
RecoveryProcesses	*None*	ds_config table: cfg_name: RecoveryProcess	The number of disaster recovery processes to be automatically started when DS-System is configured in DR mode. Client activities may start additional Recovery processes.	Between 1 and 100.
SelfHealingOption	*dropped*	-	*Replaced with Autonomic Healing scheduling.*	-
SelfHealingProcesses	*dropped*	-	*Replaced with Autonomic Healing scheduling.*	-
SelfHealingRecycleDays	*dropped*	-	*Replaced with Autonomic Healing scheduling.*	-
SelfHealingRecycleNumber	*dropped*	-	*Replaced with Autonomic Healing scheduling.*	-
SelfHealingRecycleSize	*dropped*	-	*Replaced with Autonomic Healing scheduling.*	-
Silent	Silent Mode	*None*	The DS-Clients will auto upgrade in silent mode.	true false
SkipSysAdmin	*dropped*	-	*Replaced with System Admin scheduling.*	-
TempDir	Temp Root	*None*	The temporary directory. If is not explicitly set, DS-System will set it on the same drive as the BackupRoot (for speed purposes).	

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Previous Registry Key Name	Dssys.cfg value	Database location	Description	Valid values
	Upgrade Path		The path for the Upgrade folder.	Any valid path containing the DS-Client autoupgrade packages.
WarningFrequency	PM Warning Frequency	*None*		
	License File	*None*	Path to the license file.	Cannot be on remote location or on removable disk.
	Database User	*None*	The username for the account used by the DS-System software to connect to the dssystem database.	
	Database Type	*None*	The type of the database dssystem (e.g.:MSSQL for SQL Server).	
	Database Password	*None*	The password for the account used by the DS-System software to connect to the dssystem database.	
	Database Instance	*None*	The database instance name.	
	Database Host	*None*	The hostname for the database instance. (e.g.: for a SQL Server on the local machine: (local)).	

Windows DS-System license = DS-Key (hardware key)+ license file named (dssys.lic)

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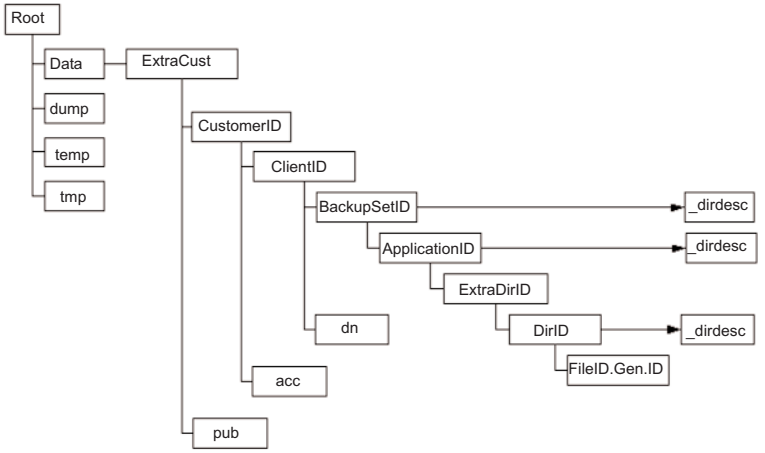
DS-System On Line Storage Structure



3.3 How to Monitor the Auto Upgrade of DS Clients (MSSQL Server)

Monitor the upgrade of all DS-Clients by using the DS-Client Version Report. This report generates statistics about the number of DS-Clients that still need to be upgraded.

The database script below can be used to investigate what DS-Clients did not upgrade successfully after they have already connected to the DS-System.
The script will return all DS-Clients that connected to the DS-System in the last hour (default) and did not notify that the upgrade was successful. This automatic notification after an upgrade was implemented in v.5.9.5 SP6; DS-Clients upgraded to 5.9.5 SP6 or higher will connect to DS-System to notify about the new version after the auto upgrade package has been applied and the DS-Client service is restarted.

Database script:

```
 DECLARE @now DATETIME, @n_hours_ago DATETIME, @interval INT
 SELECT @now = GETDATE()
 SELECT @interval=1
 SELECT @n_hours_ago = DATEADD(HOUR,  @interval , @now)
-- assuming that you upgraded DS-System on November 5, 2005 at 3 PM,
```

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```
-- you can replace the previous SELECT statement with one like
-- SELECT @n_hours_ago = '2005-11-05 15:00:00'
 SELECT dsbox_snum, account_num FROM dsbox b, dsclientinfo c
      WHERE b.box_id = c.box_id AND c.attrname = 'DS Client Version'
            AND c.attrvalue NOT LIKE '%5.9.8%' AND dsbox_snum IN
            (SELECT DISTINCT dsbox_snum FROM connection_log
                WHERE end_session_time > @n_hours_ago AND session_type NOT
IN (8, 11)
             UNION
             SELECT DISTINCT userid FROM event_log WHERE ev_time >
@n_hours_ago)
```

This will help the Service Provider troubleshoot those DS-Clients that, in a maximum of 1 hour (default) after their last connection did not upgrade their version in the DS-System.

Use the 'DS-Client Info' feature to find more information about each DS-Client.

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4 What's new in v.6.0

4.1 NEW PRODUCTS

4.1.1 BLM – Archiver (Backup Life Cycle Management)

New product. Check Installation and Backup&Restore Support.pdf for information about the supported platforms and database.

The BLM product purpose:

- Enable cost-effective long term data storage
- Allow to search for archived data (data indexing)
- Ability to easily restore archived data
- Manage data destruction

All DS-Client products (Windows Full/LITE, Linux, Mac OS X) in conjunction with all DS-System configurations (Windows /Linux /Solaris/ Mac OS X) in Stand Alone or N+1 configuration will be able to archive data to the BLM Archiver. The Restorable Images can be requested through the BLM Archiver GUI (by Service Provider) and Web Portal (by end users or Service Provider), based on configured permissions. The DS-Clients will be able to restore data from the restorable images generated by the BLM.

4.1.2 Mac OS X DS-System

New product. Check Installation and Backup&Restore Support.pdf for information about the supported platform and database. All features of Windows/Linux/Solaris DS-System apply to Mac OS X DS System, except N+1 grid configuration.

4.1.3 Mac OS X DS-Client

New product. Check Installation and Backup&Restore Support.pdf for information about the supported platform/database and the backup&restore support. All other features of Linux DS-Client apply to Mac OS X DS-Client. Both Mac and Linux DS-Clients may be referred generically as "Unix DS-Client" in ASIGRA documentation

4.2 NEW Functionality and Support

4.2.1 Windows All Products

- **All Windows ASIGRA Televaulting products support installation on Windows 2003 SP1.**
- **MS SQL SP4 database is supported** for DS-Clients and DS-Systems running on Windows platforms.
- **Java DS-Operator and Java DS-User support with Java 1.5**

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4.2.2 DS Client Windows

- **Synchronization Speed Improvement (Windows DS-Client)**
  - The speed of the synchronization was improved for some scenarios by eliminating unnecessary steps during the synchronization.
- **Bare Metal Restore supported for Windows 2003 (up to SP1) and Windows XP (up to SP2)**
- **Initial Backup to Disk**
  - In previous versions of the software, the customers needed a portable DS-System to perform an initial backup. Using v.6.0 the customers will be able to configure the DS-Clients to perform initial backup of data on a separate disk and send the disk to the Service Provider.
- **DS-Client backup / restore support for Windows 2003 SP1**
- **Oracle 10g backup/ restore support**
- **Emails filter in delete wizard**
- **MySQL backup**

- A new Backup Set type is added to Windows DS-Client Full to allow backup of MySQL databases.

See User Manual for detailed information.

- **DS-Client LITE support for E-Mail level backup (Outlook only).**
  - In previous versions of the software only DS-Client Full provided the Email Backup Set type enabled if the Message Level Restore tool was configured for the DS-Clients. Starting with v.6.0 DS-Client Lite will be able to backup Microsoft Outlook emails on the DS-Client machine if the Message Level Restore tool is configured for the specified DS-Client and DS-MLR module is installed locally.
- **DS-Client running on Windows 2000 / XP / 2003 under VMWare – ESX Server Backup**

  ASIGRA has additional support for DS-Client running on platforms running under VMWare. See Installation and Backup&Restore Support.pdf for more details.
- **Installation templates (Mass Deployment)**
  - Ability to run DS-Client Windows and Linux installations in silent mode using pre configured parameters.

See User Guide for mass deployment.pdf for more details.

- **DS-Client automatic configuration improvements (Mass Deployment)**
  - Encryption of private information in the .XML files
  - Export DS-Client configuration to XML using the DS-User Win32
  - Create Exchange Server Backup Sets on Windows DS-Client using the auto-configuration feature.
- **Configurable compression algorithm at Backup Set level**

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- Up to v.6.0 the compression type was established at DS-Client level. V.6.0 allows setting the compression type at backup set level. Compression types available if required libraries are available are LZOP and ZLIB.

• **Improved reports to include the information related to Self-Contained Backup Sets**
- v.6.0 DS-Client reports were improved to provide all the information related to Self-Contained Backup Sets.

• **Ability to create backup sets using files containing encrypted passwords**
- v.6.0 DS-Client allows browsing for files that contain encrypted passwords during the new backup set wizard.

4.3 Windows DS-System

• **N+1 configuration with MS SQL Server 2000 database support**

• **No dependencies on NTFS File System for Windows DS-System** (remove alternate data streams)

• **DR license**
- A new type of license, called Disaster Recovery license, will be introduced in v.6.0. This type of license with limited validity will allow running a limited DS-System for Disaster Recovery purposes. The DS-System will not be able to run backups and will not have any tools available but will allow restores.

• **New license implementation (HASP + license.lic)**
- See DS-Key Licensing Policy.pdf.

• **License update at run-time**
- In previous software versions the DS-System service/daemon needed to be stopped in order to update the DS-System license. Starting with v.6.0 the license update can be performed while the DS-System service/daemon is running using the DS-Operator (Help, About, ”DS-System Info”, Update License).

• **Scheduling Mechanism for Autonomic Healing and System Admin**
- Ability to clearly specify (schedule) the time when System Admin and Autonomic Healing will run.

• **Support for Cross Platform Migration (Windows / Linux / Solaris)**
- Ability to import customers residing on different DS-System running on different Operating Systems(e.g.: Export a customer residing on a Windows DS-System and import it on a Linux DS-System)

• **Multi-threaded Disc/Tape**
- Disc/Tape speed improvements when writing to bufferby running a multithreaded process.

• **Ability to choose billing in megabytes (MB) or gigabytes (GB)**

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- In previous software versions the billing scales were created to bill using MB. Starting with v.6.0 the billing scales can be created to bill in GB.

- **Alphabetical order in drop down lists**
  - Alphabetical sorted drop down lists were added to display the information from the DS-Operator for easy user access.
- **Synchronization speed improvements**
  - The speed of the synchronization was improved for some scenarios by eliminating unnecessary steps during the synchronization.
- **Install the DS-System with the database on remote machines.**
  - The DS-System installation will allow installation and upgrades of the DS-System software when the database resides in a different location.
  - The DS-System installation will allow installing the MSDE instance delivered with the ASIGRA installation if no such instance is detected on the DS-System machine.
- **Export all DS-System reports in Excel, CSV and HTML format.**
- **Add 'Disk' as another type of media for Disc/Tape requests.**
- **Configurable number of directory scans during synchronization activities.**
  - By default, all DS-Clients start Weekly Admin at the same time. If the configuration of Weekly Admin does not change on the DS-Client side than the DS-System is expected to run hundreds of synchronization processes triggered by Weekly Admins at the same time. This feature allows limiting the number of directory scans during synchronization activities so that any file system problems can be bypassed.

4.4 Linux DS Client

- **Installation templates (mass deployment)**
  - Ability to run DS-Client Windows and Linux installations in silent mode using pre configured parameters.

    See User Guide for mass deployment.pdf for more details.
- **Hot DB2 backup/restore**
- **Oracle 10g hot backup/restore**
- **LAN Discovery**
- **Block Level Resume**

  Current functionality: Scheduled backups that loose the connection to DS-System will attempt to reconnect (by default, 3 times every 5 minutes). Resuming the backup activity is implemented at file level. On a slow connection, big files may be interrupted all the time and the completion of the backup is delayed. This feature implements the resume at block level for File System backup sets (files > 100MB).
- **Self Contained Linux DS-Client installation**
- **Self-Contained backup sets**

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If you do not have a connection to a DS-System, but you would like to protect data or to prove the Agentless functionality of ASIGRA software, you can use Self Contained Backup Sets to save data on Local Storage.

- **SU to 'root' authentication for SSH connectivity during backup of file systems**.
  - Due to regulations some companies may not allow login to Unix machines using the root account. The DS-Client is able to login to Unix machines using a regular user account that it can switch to an alternate user (using 'sudo' command) in order to perform the backups and restores through SSH.
- **DS-Client running on SUSE Enterprise Linux 9 / SuSE 9.1 / Red Hat Ent. Linux 3.0/Fedora Core 2 under VMWare – ESX Server Backup**.
- **PostgreSQL 8.0 database support.**

4.5 Linux / Solaris DS-System

- **New license structure (license.lic)**
  See DS-Key Licensing Policy.pdf.
- **License update at run-time**
  - In previous software versions the DS-System service/daemon needed to be stopped in order to update the DS-System license. Starting with v.6.0 the license update can be performed while the DS-System service/daemon is running.
- **Scheduling Mechanism for Autonomic Healing and System Admin**
  - Ability to clearly specify (schedule) the time when System Admin and Autonomic Healing will run.
- **Support for Cross-Platform Migration (Windows / Linux / Solaris)**
  - Ability to import customers residing on different DS-System running on different Operating Systems(e.g.: Export a customer residing on a Windows DS-System and import it on a Linux DS-System)
- **Additional Database support:**
  - PostgreSQL 8.0
  - Oracle 10g
- **Additional Platforms support:**
  - Solaris 10 with PostgreSQL 8.0.x
- **"Move" option – optimization for Customer Migration**
- **Multi-threaded Disc/Tape**
  - Disc/Tape speed improvements when writing to buffer by running a multithreaded process.
- **Export all DS-System reports in Excel, CSV and HTML format.**

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- **Add 'Disk' as another type of media for Disc/Tape requests.**
- **Ability to choose billing in MB or GB**
  - In previous software versions the billing scales were created to bill using MB. Starting with v.6.0 the billing scales can be created to bill in GB.
- **Alphabetical order in drop down lists**
  - Alphabetical sorted drop down lists were added to display the information from the DS-Operator for easy user access.
- **Synchronization Speed improvements**
  - The speed of the synchronization was improved for some scenarios by eliminating unnecessary steps during the synchronization.
- **Configurable number of directory scans during synchronization activities.**
  - By default, all DS-Clients start Weekly Admin at the same time. If the configuration of Weekly Admin does not change on the DS-Client side than the DS-System is expected to run hundreds of synchronization processes triggered by Weekly Admins at the same time. This feature allows limiting the number of directory scans during synchronization activities so that any file system problems can be bypassed.

4.6 Web Portal

- **API for New/Update DS-Clients/Customers, Query/Update Status (Mass Deployment)**
  - Web Portal will be able to act as an interface between a customer's application and DS-System to perform limited system management tasks using the new Web Portal API.
  - The API is designed as a Web Service on the Web Portal side and any development tool that supports Web Services can be used to connect and use the Web Portal API.
  - The Web Portal API is based on the SOAP protocol.
- **DS-Client Service Levels (account setup and deployment customization)**
  - Ability to predefine parameters that will be used by the Web Portal to create the accounts/DS-Clients on the DS-System.
  - Ability to generate and download installation templates that can be used with the DS-Client Windows and Linux installations to minimize or remove the installation screens.
- **Mass deployment support (Web API, Installation Templates)**
- **BLM Archiver Management with different levels of access.**
  - Archive search
  - Request and Download restorable images.
  - BLM Archiver Status Monitoring.
  - BLM Archiver Logs.
  - Browse Archived Packages.
  - Destruction requests
- **Editable CSS (Cascading Style Sheets)**

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- Personalize Web Portal with custom background colors, fonts etc.

• **Support of Apache Tomcat 5.5 & Java 1.5 for Web Portal**

• **Additional information for Storage Usage Report**
  - Display of customer name and VAR/Referral's information in the Storage Usage Report when accessed through Web Portal.

• **Custom Subscription ID**
  - Up to v.6.0 the Subscription ID was a unique number generated by Web Portal randomly. This feature allows VAR/Resellers who already have an account number with the Service Provider to use their existing number.

4.7 DS-MLR

• **GroupWise improvements**
  - Forward E-mails Backup
  - Reply E-mails Backup
  - Attachments Backup
  - Backup of folders shared by many users

• **Backing up mailboxes belonging to users in child domains**
  - v.5.9.7 + SP DS-MLR could not backup mailboxes belonging to users created in a child domain. V.6.0 DS-MLR cannot view these mailboxes and back them up.

4.8 ASIGRA Web Support Portal

• 24/7 Emergency and DR license through the Web (some conditions apply)

• ASIGRA Error database (will be continuously updated)

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5 Fixed issues

Please visit https://www.websupport.asigra.com, Documentation section for more information about Fixed Issues in v.6.0.

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6 v.6.0 Known Issues

Please visit https://www.websupport.asigra.com, Known Issues section for more information about Known Issues in v.6.0.

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7 ASIGRA products – CD Types and Content

Due to the increased number of products and platforms, ASIGRA is delivering its software on different CD structures. Here it is an example of the CD structure for the Asigra Televaulting v.6.0 software products and their latest Service Packs (up to November 2005).

CD's Type			
CD1	**CD2**	**CD3**	**CD4**
Asigra Televaulting v.6.0 CD1 DS-Client Site Software DS-Client DS-User DS-MLR + Latest Service Packs	Asigra Televaulting v.6.0 CD2 DS-System Software DS-System Windows Solaris Linux Mac + Latest Service Packs	Asigra Televaulting v.6.0 CD3 Additional Tools Modules BLM DS-Operator WebPortal DS-System-SLA Monitoring DS-Client-SLA Monitoring + Latest Service Packs	Asigra Televaulting v.6.0 Service Pack x N/A N/A
Content			
DS-Client DS-Client-LITE DS-Client LINUX DS-Client MAC_OS_X DS-User-Java DS-MLR Service Packs\ DS-Client DS-Client-LITE DS-Client LINUX DS-Client MAC_OS_X DS-User-Java DS-MLR	DS-System WINDOWS DS-System SOLARIS DS-System LINUX DS-System MAC_OS_X Service Packs\ DS-System WINDOWS DS-System SOLARIS DS-System LINUX DS-System MAC_OS_X	BLM DS-Operator WebPortal DS-System-SLA Monitoring DS-Client-SLA Monitoring Service Packs\ BLM DS-Operator WebPortal DS-System-SLA Monitoring DS-Client-SLA Monitoring	DS-Client DS-Client-LITE DS-Client LINUX DS-User-Java DS-MLR DS-System WINDOWS DS-System SOLARIS DS-System LINUX BLM DS-Operator WebPortal DS-System-SLA Monitoring DS-Client-SLA Monitoring
Release + Service Packs (if applicable)			**Service Pack only**
- ASIGRA CDs are built like this every time ASIGRA releases an official release or a service pack. - All new customers receive these 3 CDs the first time, or when applying for software branding. - For a new ASIGRA Official Release, all the existing customers receive these 3 CDs.			- All existing customers receive this CD when a service pack is issued.

Note: Grayed out text is subject to change, based on the products required by a Service Pack.

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8 DS Modules Availability

DS-Module	DS-System				DS-Client		
	Windows	Linux	Solaris	Mac	Windows	Linux	Mac
Online File Summary	+	+	+	++	+	+	++
SLA Availability	+	+	+	++	+	+	++
LAN Storage Discovery	+	+	+	++	+	++	++
Budget Allocation	+	+	+	++	+	+	++
System Monitoring	+	+	+	++	N/A	N/A	N/A
Client Monitoring	+	+	+	++	+	--	--
Message Level Restore	+	+	+	++	+	N/A	N/A
Local Storage	+	+	+	++	+	+	++
Autonomic Healing	+	+	+	++	N/A	N/A	N/A
Disc/Tape	+	+	+	++	+	+	++
Web Portal	+	+	+	++	N/A	N/A	N/A
Backup Lifecycle Management	++	++	++	++	++	++	++

Legend:

N/A	Does not apply
+	Available
- -	Not available
++	Available in v.6.0 (NEW)

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